

SILTRUST™ RTV577-LV and RTV577-LV BLK

Low Outgassing Adhesives and Sealants

Product Description

SILTRUST RTV577-LV and RTV577-LV BLK are two-component, room temperature cure silicone sealants with extreme low temperature stability. These RTVs come in white and black colors and have a thick paste consistency making them excellent candidates for horizontal, vertical and overhead applications with low sag. Both products will cure in deep sections without additional heat or moisture. SILTRUST RTV577-LV and RTV577-LV BLK both meet ASTM E595 levels of low outgassing.

Key Features and Typical Benefits

- Room temperature cure
- Deep section cure without the addition of heat
- Formulated without solvents
- Excellent adhesion capabilities with primer
- Excellent release properties
- Retention of elastomeric properties with the following temperature ranges: -115°C (-175°F) up to 204°C (400°F) continuously and up to 260°C (500°F) for short periods of time
- Provides ASTM E595 low outgassing characteristics in a high vacuum and high temperature environment

Typical Physical Properties

Uncured Properties	RTV577-LV	RTV577-LV BLK
Appearance/Color	White	Black
Consistency	Paste	Paste
Specific Gravity	1.36	1.38
Mix Ratio by Mass with DBT catalyst (RTV paste:DBT)	100:0.5	
Typical Cured Properties	Cured 7 days at 23°C (73°F) and 50% relative humidity unless otherwise noted	
Work Life, at 23°C (74°F) and 50% RH, hours	3	1
Shore A Hardness	62	61
Tensile Strength, psi (MPa)	780 (5.4)	727 (4.9)
Tensile Elongation, %	106	112
Lap Shear Strength ‡, psi (MPa)	412 (2.8)	382 (2.6)
Coefficient of Thermal Expansion †, µm/m/°C	302	296
Specific Heat at 20°C †, J/g K	0.78	0.83
Dielectric Strength †, kV/mm	16.7	13.0
Dielectric Constant at 1kHz †	3.7	9.3
Outgassing-Total Mass Loss †, %	0.24	0.22
Outgassing-Collected Volatile Condensable Materials †, %	0.01	0.01

Typical properties are average data and are not to be used as or to develop product specifications.

†: Cured 7 days at 25°C (77°F) and 50% relative humidity

‡: Acid etched and SS4155 primed bare 2024-T3 Aluminum. Nominal 0.025 inch thick bond line

¹: when tested using ASTM E595 conditions

Mixing

RTV577-LV and RT577-LV BLK are two-part materials that require thorough mixing. Select a mixing container 4 to 5 times larger than the volume of RTV silicone rubber compound to be used. Weigh out the RTV silicone rubber base compound and add the appropriate amount of curing agent.

Using clean tools, thoroughly mix the RTV base compound and the curing agent, scraping the sides and bottom of the container carefully to produce a homogeneous mixture. When using power mixers, avoid excessive speeds which could entrap large amounts of air or cause overheating of the mixture, resulting in shorter pot life.

Deaeration

Air entrapped during mixing should be removed to eliminate voids in the cured product. Expose the mixed material to increasing vacuum levels, increasing up to 29 inches of mercury, if possible. The material will expand, crest, and recede to about the original level as the bubbles break. Degassing is usually complete about two minutes after frothing ceases. When using the RTV silicone rubber compound for potting, a deaeration step may be necessary after pouring to avoid capturing air in complex assemblies

Curing

Using RTV577-LV or RTV577-LV BLK and DBT curing agent in a 100:0.5 ratio by mass, these RTV silicone rubber compounds will cure in about 24 hours at 25°C (77°F) and 50% relative humidity to form a durable resilient rubber. Pot life may be increased by refrigerating the mixed material at 0°C (32°F) after catalyzing.

Deep Section Curing

If these RTV silicone rubber compounds are to be used in deep sections at temperatures over 150°C (302°F), the cured product should be properly conditioned prior to service. Following room temperature cure of 1-3 days, a typical program would be eight hours at 28°C (80°F) intervals from 100°C (212°F) to the service temperature. Longer times at each temperature will be required for larger parts or very deep sections.

Patent Status

Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute the permission, inducement, or recommendation to practice any invention covered by any patent without authority from the owner of the patent.

Product Safety, Handling, and Storage

Customers should review the latest Safety Data Sheet (SDS) and label for product safety information, safe handling instructions, personal protective equipment, if necessary, emergency service contact information, and any special storage conditions required for safety. Momentive Performance Materials (MPM) maintains an around-the-clock emergency service for its products. SDS are available at www.momentive.com or, upon request, from any MPM representative. For product storage and handling procedures to maintain the product quality within our stated specifications, please review Certificates of Analysis, which are available in the Order Center. Use of other materials in conjunction with MPM products (for example, primers) may require additional precautions. Please review and follow the safety information provided by the manufacturer of such other materials.

Limitations

Customers must evaluate Momentive Performance Materials products and make their own determination as to fitness of use in their particular application(s).

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